

# SURFACE WATER TREATMENT

## Instructions for Completing the Monthly Operation Report (MOR)

**NOTE:** The MOR (original) must be sent to the Division of Water in Frankfort as well as a copy to the applicable Field Office no later than 10 days after the end of the month. The water supply must keep a copy as well.

**NOTE:** On the electronic MOR, each page is on a separate worksheet (listed at the bottom of the spreadsheet) within the MOR spreadsheet. Each page is named according to the information it contains. In order to print out the MOR, go to “File” then “Print”. In the section titled “Print What” click next to “Entire Workbook”. All pages will then print.

If using the electronic MOR, it is recommended that the MOR first be saved as a “Blank”; this can then be used as a template for each month. Call up the “Blank” and save as the current month (i.e. MORJan01). This way you will avoid having to erase data from one month in order to have a working file for the current month.

If using the electronic MOR, do not enter “0” (zero) in any space in which there is no data (for example, do not enter “0” in the spaces for the 31<sup>st</sup> day of the month if there are only 30 days in the current month). The Average calculations will not be correct if “0’s” are used. Do not use the letter “o” instead of the number “0” in any space.

### Cover Sheet:

PWS Name	Name of System
Date Mailed	Date Mailed in month/day/year
Source Name	Name of source of water for the water plant
Operator(s) in Responsible Charge	Name and certification number of operators responsible for running the plant; if operators rotate shifts, a separate page can be included with the pertinent information
Design Capacity	Design capacity in gallons per minute as last approved by the Cabinet
Type of Filtration	Type of media (i.e., dual media, mixed media, slow sand, rapid sand, etc.)
Design Filtration Rate	Filtration rate in gallons per minute per square foot as last approved by the Cabinet
Percent Backwash Water Used	Calculated as: <u>Gallons of backwash water used</u> x 100

Gallons of water produced

Date Flocculation Basin(s) Last Cleaned	Date flocculators last cleaned in month/year
Date Settling Basin(s) Last Cleaned	Date settling basins last cleaned in month/ year
Total Water Treated	Total amount of water treated in the month—must match the figure at the bottom of the “Raw Water Treated” column on page 1
Days of Operation	Number of days during which the plant treated water
Purchasers Complete:	If more spaces are needed to record the Producer/PWSID and Total Amount Purchased, make additional copies of the cover sheet
Sellers Complete:	Same comment as for Purchasers Complete

**Page 1 Chemicals:**

**Chemical Addition**

**NOTE: If a liquid chemical is used, the calculations in the cells have been set up on a wet basis (actual weight used of product as it was received) and not on a dry basis (actual weight of chemical in product used). For example, liquid fluoride can be weighed as the amount of product used from a tank or as that amount multiplied by 23%, as fluoride is 23% of the product received.**

**The Drinking Water Branch is not dictating how to track chemical usage; continue to do so as you have historically done. These formulas can be modified to calculate on a dry weight basis.**

Raw Water Treated	Amount of raw water treated in gallons—this is <u>not</u> the finished water pumped to the distribution system; this is to reflect water that has had chemicals added
Chemicals Added	Provide type of chemical added in the appropriate column (i.e., alum, ferric, lime, caustic and so on)
LBS	Total pounds of chemical used each day

**Page 2 Chemicals:**

**Chemical Addition**

Same as Page 1

**Page 3 Water Quality:**

**Water Quality Analytical Results**

Top of Filter pH	Record pH collected from on top of the filters
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**Page 4 Water Quality:**

Disinfectant Residual **EPTDS**

**(Entry Point to the Distribution System)**

Rainfall

Water Temperature

**Water Quality Analytical Results**

Record the **lowest disinfectant residual entering the distribution system** from the recorder on the on-line chlorine analyzer; circle “T” for total chlorine or “F” for free chlorine. If using the electronic format, type in “total” or “free”.  
**NOTE:** This information has been moved from Page 5.

It is recommended that total rainfall be recorded for each day

Record a daily water temperature; circle “F” for Fahrenheit or “C” for Centigrade. If using the electronic format, type in “F” or “C”.

**Page 5 Filters:**

Filter No.

Area (square feet)

Filter Run Hours

**Filter Operation**

**Copy this page as needed**

Filter number as designated by the plant

Filter area in square feet

Number of hours the filter was in service for that day

**Page 6 Distribution:**

**Distribution System Operation**

No change

**4-Hr Turbidity:**

**4-hour Compliance Turbidity Readings**

**NOTE: On January 1, 2002, the turbidity limit will drop to 0.3 NTU in 95% of the 4-hour samples for systems serving greater than 10,000 in population (including purchasing systems). Also on January 1, 2002, these same systems shall not exceed 1 NTU at any time (instead of the current 5 NTU).**

Days Operated During Report Period

This should be the same number as on the Cover Sheet

Hours Plant Operated

Number of hours that the plant filtered water

# of Turbidity Samples Required

Divide the “Hours Plant Operated” by 4 (turbidity readings to be taken 4 hours apart) and **round the number up to the next whole number**; this will be the number of turbidity readings you will need to have taken for the day.

Daily Maximum

Record the daily maximum turbidity value for that day from the 4-hour readings

**The following 2 pages are for compliance with the Interim Enhanced Surface Water Treatment Rule and the Stage 1 Disinfectant/Disinfection By-Products Rule, effective for systems greater than 10,000 in population (including any purchasing systems for DDBP only) on January 1, 2002 and for systems less than 10,000 on January 1, 2004 (expected).**

**Individual Filter Turbidity**

**Individual Turbidity Exceedance Report**

**Copy this page as needed**

**Systems must check “Yes” or “No” in response to the statement regarding individual filter turbidity monitoring regardless of an individual filter exceedance. This page must be submitted with the rest of the MOR.**

Date:

Date an individual filter exceeded one of the Trigger Levels

Filter Number

Number of filter that exceeded one of the Trigger Levels

Turbidity Reading

Turbidity reading that caused the Trigger Level to be exceeded

Trigger Level

The “letter” of the Trigger Level exceeded

Reason for Exceedance

If known, the reason that the Trigger Level was exceeded

**Chlorite&Chlorine Dioxide**

**Daily chlorite and daily/monthly chlorine dioxide**

If chlorine dioxide is used as a disinfectant, daily chlorite and chlorine dioxide tests must be done.

Chlorite: The daily test can be run using amperometric titration. The routine monthly monitoring and additional monthly monitoring due to exceeding the daily MCL must be done by ion chromatography (and reported on a separate compliance form).

Chlorine Dioxide: The daily test and the additional testing as a result of a daily MRDL exceedance can be run using either amperometric titration or DPD titration. If approved by the State, chlorine dioxide may be measured using DPD test kits.

